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Market Development Reports

The Potential Impact of Hurricane Michelle on the Cuban Citrus Industry 2001

Approved by:

Margie Bauer

Caribbean Basin ATO

Prepared by:

Thomas H. Spreen, Mark G. Brown, William A. Messina, Jr.

Report Highlights:

On November 4, Hurricane Michelle struck Cuba with winds of 130 miles per hour. The storm made landfall on the south shore of the Cuban mainland at the Bay of Pigs and traveled through the largest citrus production area in Cuba. Jaguey Grande and the Isle of Youth collectively account for 3/4 of Cuba's production of grapefruit and about 1/2 of the total orange output.

Includes PSD changes: No
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On November 4, Hurricane Michelle struck Cuba as a Category IV hurricane packing winds of 130 miles per hour. As shown in Figure 1, the path of the hurricane was just south and east of Cuba's Isle of Youth. The storm made landfall on the south shore of the Cuban mainland at the Bay of Pigs and traveled just east of Jaguey Grande, the largest citrus production area in Cuba. Jaguey Grande and the Isle of Youth collectively account for 3/4 of Cuba's production of grapefruit and approximately one-half of the total orange output (Nova, et al., 1998).

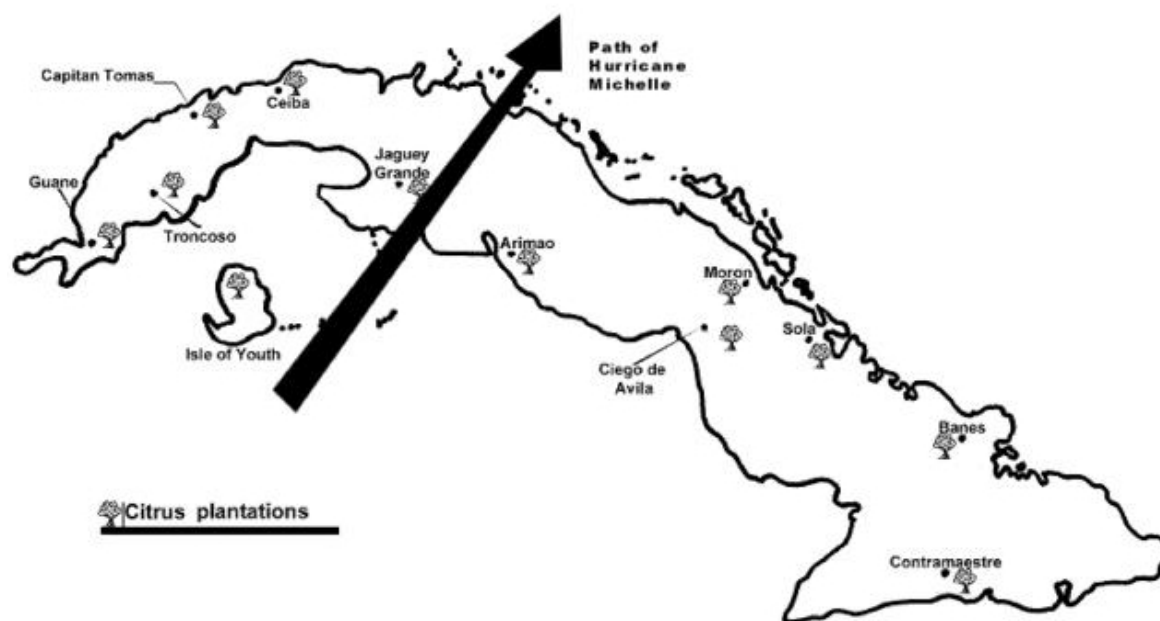


Figure 1. Path of Hurricane Michelle and the citrus production regions of Cuba.

In recent years, Cuba has turned away from the export of fresh citrus to Europe and has increasingly diverted a large proportion of its citrus production to processed citrus products. (Fresh utilization of Cuban grapefruit has dropped dramatically in recent years as preferential markets in the former USSR and Eastern Europe were lost, and Cuba has had difficulty competing with Florida and Israel in Western Europe.) In the 1999-00 season, approximately 50 percent of Cuba's orange production and virtually all grapefruit production was sent to processing. Cuba's share of the world orange juice market is relatively small, but it does command a significant share of world grapefruit juice production. USDA-FAS estimates of world processed grapefruit production indicate that the United States commands nearly 70 percent of the world grapefruit juice market and Cuba's share is just over 12 percent (Brown, 2000).

Another calculation of Cuba's grapefruit juice output can be made using data recently published by Nova, et al. (2001). They report that in the 1999 season (1998-99), total grapefruit production in Cuba was 296,000 MT, of which 270,000 was processed. Processed utilization of

270,000 MT is equivalent to seven million 85-pound boxes. Juice yields in Cuba, however, are low compared to Florida. Using figures reported by Nova, et al. (2001) juice yields for grapefruit in Cuba average approximately 2.70 SSE gallons per box (assumes one pound solid per SSE gallon). Thus Cuba's estimated grapefruit juice production in 1998-99 was 18.91 million SSE gallons. This compares to Florida's production of 140.4 million SSE gallons in that same season.

Reports from Cuba suggest a continued recovery in their citrus industry prior to the arrival of Hurricane Michelle. The 2000-01 total citrus crop was estimated at 900,000 MT. Thus it is likely that in the absence of a hurricane, the grapefruit crop would have been 350,000 MT (9.08 million boxes) in the 2001-02 marketing year. (This figure is based upon projection of recent trends in Cuban citrus production.) Processed utilization also would have been expected to range from 300,000 to 325,000 MT. Using 315,000 MT (8.17 million boxes) as an average volume, Jaguey Grande and the Isle of Youth likely would have produced approximately 236,000 MT of grapefruit for processed utilization. In a worst-case scenario in which all of this fruit is lost, Cuba's grapefruit juice production for 2001-02 will be 16.53 million SSE gallons short of projected production for this season. In a better-case scenario, production losses might be one-half, or approximately 8.26 million SSE gallons.

At the time this paper was written, it was not known if the citrus processing plant at Jaguey Grande was damaged. This plant is one of five in Cuba, but it is, by far, the largest, handling between 40 and 50 percent of the fruit processed in Cuba. If this plant has been severely damaged, efforts to salvage fruit blown to the ground will be hampered. Since November is the beginning of the processing season in Cuba, there likely is idle processing capacity at the other plants, but it will still complicate the salvage process since the fruit must be transported to plants in Ciego de Avila or Pinar del Rio for processing.

Without question, Hurricane Michelle has significantly affected Cuba's citrus production for the current season, with a particularly heavy impact on grapefruit. Nearly all of Cuba's citrus juices are marketed in Europe. Therefore, grapefruit juice prices in Europe would be expected to rise substantially this season. While much of the grapefruit juice produced in Florida is sold in the United States, an increasing amount is being exported, particularly to Europe (in 2000-01, an estimated 25.7 percent of Florida's grapefruit juice movement was exports), and higher juice prices in Europe will serve to support prices in the United States this season as well. The impact of the storm on European orange juice prices is likely to be less significant for the current season because Cuba is a relatively small supplier to the European orange juice market. Given the relatively small volume of citrus that Cuba brings to fresh markets, the impacts of the storm on global fresh orange and grapefruit markets would be expected to be negligible.

Until such time as additional information is available from Cuba on losses to the citrus industry from the storm, it would be problematic to offer any specific predictions on citrus market prices. The uncertainty caused by the lack of information may indeed serve to boost market prices in the near term more than actual losses might dictate.

Reports from the U.S. National Hurricane Center have indicated that Hurricane Michelle moved across Matanzas, Villa Clara, and Cienfuegos provinces in Cuba with sustained winds of 125 mph. This suggests the potential for substantial tree damage, which would have implications for

Cuba's citrus production volumes in future seasons as well. Here again, however, additional information from Cuba will be necessary to project long-term market impacts.

More work by the authors can be found at <http://edis.ifas.ufl.edu/>

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Footnotes

1. This is EDIS document FE 328, a publication of the Department of Food and Resource Economics, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL. Published November 2001. Please visit the EDIS website at <http://edis.ifas.ufl.edu>.

2. Thomas H. Spreen, professor, Department of Food and Resource Economics; Mark G. Brown, economist, Department of Economic and Marketing Research, Florida Department of Citrus, and adjunct associate professor, Department of Food and Resource Economics; and William A. Messina, Jr., coordinator of industry relations, Department of Food and Resource Economics; Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL.

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